

longitudine totali; anus intra pinnas ventrales situs; lobus pinnae caudalis superior late truncatus; colore obscure brunneus.

From Australia. Catal. no. 239. Certainly related to *Scymnus* and *Læmargus*, but is quite distinct from *S. bispinosus*, Q. & G. (Voy. Uranie, Atlas, Zool. pl. 44) and also from *Somniosus brevipinna*, Less.

The following species are described as probably new:—

Cottus gigas, perhaps identical with *C. jaok*, Cuv. & Val., or a variety of that species. From Decastre's Bay, at the mouth of the Amur. Cat. no. 1395.

Osmerus oligodon, very near *O. japonicus*, Brevoort (Japan. Fishes, pl. 10), but readily distinguished by its lateral line being interrupted as in *O. eperlanus*. From the same locality as the preceding species.—*Sitzungsber. der Akad. der Wiss. zu Wien*, Nov. 10, 1864, p. 185.

Observations on the Structure of the Nervous System in Clepsine.

By E. BAUDELLOT.

In its totality the nervous chain of *Clepsine* appears to be organized on the same type as in the other Hirudineæ. Above the mouth there is a bilobed, cerebroid, inflated part, giving origin to two very short connectives which closely embrace the œsophagus and unite the cerebral with the subœsophageal centre; the latter is voluminous, and is followed by a series of twenty-one very distinct ganglia united by double connectives, and the chain terminates in an elongated nervous mass, the extremity of which corresponds with the centre of the posterior sucker.

When one of the ganglia of the median portion of the chain is examined by the microscope, two sorts of elements are easily distinguished through its hyaline membrane—some fibrous, the others cellular. The fibrous portion appears as a median ribbon continuous with the connectives, and becomes gradually enlarged towards the middle of the ganglion, acquiring at this part a fusiform or lozenge-shaped appearance. At the level of the angles of this lozenge the lateral nerves originate. The cellular portion of the ganglion consists of six capsular inflations, of an ovoid form: two of these are situated on the median line beneath the fibrous median ribbon, through which they may be seen; the other four occupy each one of the compartments of the ganglion.

These six capsules appear to contain only unipolar cells, the dimensions of which vary between $\frac{2}{100}$ and $\frac{4}{100}$ mill. Each of these cells contains a large nucleus, of oval form, with one or more nucleoli in its interior. The cells of the four exterior capsules are continuous by their produced extremity with a nervous fibre; all the fibres which thus originate radiate towards the centre of the ganglion, where they interlace either with the fibres from the opposite capsules or with those which descend from the connectives and lateral nerves.

The connectives appear to consist of a fibro-granular substance

without distinct nervous fibres. In the space between each pair of connectives is a very delicate nervous bundle, apparently of the same substance as the connectives: this represents the intermediate nerve described by E. Faivre in the common Leech.

The subœsophageal inflation is of large size as compared with the other ganglia; it is somewhat triangular in form; its truncated apex is continuous with the ganglionic chains; its concave base embraces the lower surface of the œsophagus; and its antero-lateral angles are continuous with the cerebral connectives.

On the margins of this fibro-nervous mass is arranged a series of capsules or inflations, formed of unipolar cells perfectly similar to those of the ventral ganglia; in the median line there is also a double series of eight or ten similar capsules. By counting these capsules, we find that, as each simple ganglion contains six of them, the subœsophageal ganglion is formed by the union of at least four ganglia, which are confounded together by the extreme shortness of their connectives. The caudal inflation presents a very similar arrangement of parts; by the same mode of calculation it appears to result from the fusion of at least seven ganglia.

The cerebrum exhibits nothing to differentiate it from the other ganglia: it consists of a fibro-nervous loop continuous with the connectives and passing over the œsophagus, and bearing on its margin on each side six capsules containing unipolar cells. From their direction a certain number of fibres originating from these cells seem to bear towards the median line, and to pass from one side to the other. Thus the cerebrum may be regarded as consisting of two simple ganglia.

The lateral nerves (two in number) originate from each side of their ganglion; at their origin they are united in a common sheath of fibro-elastic tissue, but they soon separate. After a short course (about 1 millim.) the anterior branch usually presents on one side a small ganglionic inflation, often exceeding $\frac{1}{10}$ millim. in size; this, which is sometimes fusiform, sometimes quadrangular, consists of a granular material, in which is a large oval nucleus, usually furnished with several nucleoli. It commonly gives off a short branch, which unites the anterior with the posterior root; when the inflation is quadrangular, each of its angles emits a nervous branch.

Another very interesting peculiarity consists in the existence of nervous cells appended here and there, like grapes, to the most delicate extremities of the lateral nerves. These cells, which are usually unipolar, measure from $\frac{2}{100}$ to $\frac{3}{100}$ millim.; they contain a granular matter enclosing an oval nucleus with one or more nucleoli.

As to the signification of these cells, the author says: "Brandt indicated in the Leech a gastric system, which other skilful observers were subsequently unable to discover. In 1857, Faivre discovered in the stomachal membrane of the Leech a network formed of nervous tubes and cells—a network the existence of which is certain, but of which he could not ascertain the connexions. Now, from the facts that I have ascertained with regard to *Clepsine*, I am convinced that this nervous network is formed at the expense of the terminal

extremities of the lateral nerves, and that it is the analogue of the stomato-gastric of other Annelides, from which it differs only in its origin. This, moreover, is not without precedent in science. M. de Quatrefages, in his investigations of the Annelides, has shown that in *Eunice sanguinea*, for example, the visceral nervous system furnishes the nerves both of animal and vegetative life."—*Comptes Rendus*, Nov. 14, 1864, p. 825.

On *Ptychochærus plicifrons* (*Centuriosus pleiceps*, Gray).

By Dr. L. J. FITZINGER.

The recorded species of the family *Setigera*, according to Dr. Fitzinger, are nineteen in number, and form seven distinct genera, namely, *Sus* with nine, *Potamochoærus* with two, *Porcula* with two, *Ptychochærus* with one, *Phacochoærus* with two, and *Dicotyles* with two species.

Dr. Fitzinger proposes the name of *Ptychochærus plicifrons* for the Pig described by Dr. Gray under the name of *Centuriosus pleiceps*, and gives the following as the characters of the genus:—

“Fore and hind feet with four toes; skin wrinkled, divided on the body by deep regular folds into three belts, and very sparingly clothed with scattered bristles. Snout elongated into a short, moveable, very broad trunk, truncated in front, which projects beyond the lower lip. Ears very large and broad, rounded, flattened, and hanging down loosely at the sides of the head. Tail not very short, terminating in a tuft. Incisors, canines, and molars present in both jaws; molars simple. No lobes of skin or wart-like elevations on the cheeks. Upper canines not penetrating the snout. No secretory glands at the posterior part of the back. Teats situated on the belly and groin. Stomach simple.

“Dental formula as in the genus *Sus* : $\frac{6}{6} \cdot \frac{1-1}{1-1} \cdot \frac{7-7}{7-7} = 44.$ ”

This Pig has only been discovered about three years, and is only known in the domesticated state. It has been imperfectly noticed by Bartlett and Gray. Dr. Fitzinger describes it from living specimens in the Zoological Garden at Vienna. He also rejects the previous supposititious statements of the native country of this remarkable form of Pig, which is said to be China or Japan, his reason for so doing being that no travellers in those countries have ever mentioned its occurrence there, nor does its portrait appear among the numerous figures of animals that we possess drawn by Chinese and Japanese artists. Dr. Fitzinger thinks it probable that Abyssinia is the native country of the species; and in support of his view he quotes a short notice by Dr. Theodor von Heuglin of a similar form, called “Hassama” by the Abyssinians, which occurs wild among the mountains of Simehn. Heuglin’s note is as follows:—“This species is somewhat smaller than our European Wild Swine, strongly covered with bristles, dark blackish brown, spotted with greyish yellow; the head is short and obtuse; the ears are very long and pendent, and the litter always small.—*Sitzungsab. der Akad. der Wiss. zu Wien*, Nov. 10, 1864, p. 181.